ABSTRACT OF THE DISCLOSURE

A directed association visualization (DAV) method and system provides a visualization tool for mining large volumes of transaction data to extract marketing and sales information generated by applications, such as real-world electronic commerce (E-commerce) applications. The DAV mechanism visually associates data items, affinities, and relationships for large-volume data (e.g., e-commerce transaction data). Furthermore, the DAV mechanism maps data items and their relationships to vertices, edges, and positions in visual three-dimensional space. The distance between a pair of items represents the frequency of the item set in the transaction data, and the directed edge represents the association confidence levels and association directions between the items in the transaction data. The DAV mechanism also encapsulates a physics-based system to position data items in a three dimensional space. Items that have a high correlation are positioned close to each other.